

Practice 2-4

Reasoning in Algebra

Use the given property to complete each statement.

1. Symmetric Property of Equality
If $MN = UT$, then $\underline{\hspace{1cm}}$.
2. Division Property of Equality
If $4m\angle QWR = 120$, then $\underline{\hspace{1cm}}$.
3. Transitive Property of Equality
If $SB = VT$ and $VT = MN$, then $\underline{\hspace{1cm}}$.
4. Addition Property of Equality
If $y - 15 = 36$, then $\underline{\hspace{1cm}}$.
5. Reflexive Property of Congruence
 $\overline{JL} \cong \underline{\hspace{1cm}}$

Give a reason for each step.

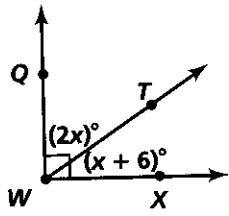
6. $7x - 4 = 10$
 $7x = 14$
 $x = 2$
7. $0.25x + 2x + 12 = 39$
 $2.25x + 12 = 39$
 $2.25x = 27$
 $225x = 2700$
 $x = 12$

Name the property that justifies each statement.

8. If $m\angle G = 35$ and $m\angle S = 35$, then $m\angle G \cong m\angle S$.
9. If $10x + 6y = 14$ and $x = 2y$, then $10(2y) + 6y = 14$.
10. If $TR = MN$ and $MN = VW$, then $TR = VW$.
11. If $\overline{JK} \cong \overline{LM}$, then $\overline{LM} \cong \overline{JK}$.
12. If $\angle Q \cong \angle S$ and $\angle S \cong \angle P$, then $\angle Q \cong \angle P$.

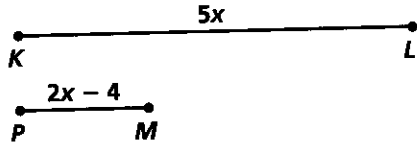
Fill in the missing information. Solve for x , and justify each step.

13.



$m\angle QWT + m\angle TWX = 90$
 $2x + (x + 6) = \underline{\hspace{1cm}}$
 $\underline{\hspace{1cm}} + 6 = 90$
 $\underline{\hspace{1cm}} = \underline{\hspace{1cm}}$
 $x = \underline{\hspace{1cm}}$

14.



$KL = 3(PM)$
 $5x = 3\underline{\hspace{1cm}}$
 $5x = \underline{\hspace{1cm}}$
 $\underline{\hspace{1cm}} = -12$
 $x = \underline{\hspace{1cm}}$